



**TRAVERSE  
TECHNOLOGIES  
AUSTRALIA**



**128K PCI ISDN MODEM**

**User Manual - Windows 98**

Revision 1.2

CHAPTER 1: INTRODUCTION .....	4
Features .....	4
Packing List .....	4
Trademarks .....	4
Introduction.....	4
CHAPTER 2: HOW TO ORDER AN ISDN LINE .....	5
CHAPTER 3: HARDWARE AND SOFTWARE INSTALLATION.....	6
I) Installing NETjet ISDN Adapter for Windows 98.....	6
II) Setting Up Internet Access.....	12
III) Set up ML-PPP (128K bps).....	15
IV) Switching between 128k and 64k dynamically.....	18
V) Changing your ISDN Phone number .....	19
VI) Configure your PC to be a Dial-Up Server .....	19
VII) configure the Dial-Up Networking TCP/IP protocol.....	21
VIII) Installing MS Dial-Up Networking .....	24
IX) Installing TCP/IP Protocol.....	25
X) Set up Remote PC Access .....	25
CHAPTER 4: Troubleshooting .....	26
APPENDIX A.....	29
A.1 Technical Support .....	29
A.2 Returning a Product .....	29
A.3 Warranty Terms you should know .....	30
A.4 Limited Warranty.....	30
A.5 Copyright.....	30

**WARNING : This product may only be connected to the Telecommunications Network under the following conditions :**

(i) The card can only be installed in a Computer that has a case (cover) fitted that can only be removed with the use of a tool or key. The card should not be installed in a Computer with a "Flip Top" case.

(ii) Do not connect the card to the Telecommunications Network until the Computer case is fitted and screwed or locked in place.

(iii) In the event that the Computer case is to be removed, the card must be disconnected from the Telecommunications Network before the case is removed, and must not be re-connected until the case is replaced and screwed or locked in place.

# CHAPTER 1: INTRODUCTION

## ***Features***

- The world's first PCI ISDN Modem endorsed by Microsoft.
- PCI PLUG and PLAY. No jumpers or switches.
- Supports the following Telstra ISDN services :  
Microlink, OnRamp2, OnRamp Home Highway and OnRamp Business Highway
- Supports DOV (Data-Over-Voice)
- Supports PPP (64 Kbit/s) and Multi-link PPP (128Kbit/s).
- Native driver support under Microsoft Windows 98. Compatible with all software running under Dial-up Networking.
- Simple installation procedure (less than 5 minutes installation time).

## ***Packing List***

You should find the following items in your NET*jet* 128K ISDN modem kit:

- NET*jet* PCI ISDN card
- NET*jet* Distribution CD, including documentation files.
- An RJ-45 ISDN cable

Please contact your dealer if any items are damaged or missing.

## ***Trademarks***

NET*jet* is a registered trademark of Traverse Technologies Australia Pty Ltd. All other trademarks and copyrights are the property of their respective holders.

## ***Introduction***

This manual provides step-by-step instructions for installing and setting up the NET*jet* ISDN adapter to complete a call across the ISDN network. You can use the NET*jet* ISDN adapter to connect your personal computer to a remote computer network. The remote network can be the Internet, or it can be a remote PC in your office network. If you are connecting to the Internet you will be able to use all of the features offered by your Internet access program. Features vary, but may include browsing, uploading and downloading files, using Email and accessing World Wide Web sites and chat rooms.

If you are telecommuting, you can use the office network just as if you were at work. For example, if you normally log into the office network for file retrieval and storage, you will use the same procedure from your home PC to open and save files. If you use Email over a local area network at work, you will be able use the same Email program at your home. You can also use the adapter to connect to a single remote PC that contains another ISDN adapter. This allows you to use peer-to-peer network programs for file sharing between two PCs.

## CHAPTER 2: HOW TO ORDER AN ISDN LINE

At present, Telstra are the only carrier within Australia that supply Basic Rate ISDN lines.

Telstra Sales can be contacted on 132000 anywhere in Australia.

Information on their ISDN services is also available on the internet at:

web <http://www.telstra.com.au/onramp/>  
email [ISDN@Telstra.com.au](mailto:ISDN@Telstra.com.au)

The *NETjet* product is compatible with both the new ETSI OnRamp2 ISDN service and the older Microlink ISDN services of Telstra. If you install the *NETjet* card first, you can go back and add your ISDN telephone numbers (see Chapter 3, Section V).

## CHAPTER 3: HARDWARE AND SOFTWARE INSTALLATION

### ***1) Installing NETjet ISDN Adapter for Windows 98***

Follow these steps to install the NET*jet* ISDN adapter:

#### **1. Check if Dial Up Networking Installed**

If you do not have the Dial Up Networking option of Windows 98 installed, please go to section VIII for the procedure to install Dial Up Networking before doing the following steps. Failure to do this will prevent correct installation of Dial Up Networking. If this does occur, refer to Troubleshooting in Chapter 4.

#### **2. To install the NET*jet* ISDN adapter in your computer**

- a. Power OFF your computer system and remove all power cables.
- b. Remove screws and case.
- c. Locate a free PCI slot.
- d. Unscrew/remove slot rear panel.
- e. Place the NET*jet* PCI ISDN adapter over the PCI slot. Press the adapter down firmly with both hands into the slot. Check to be sure the adapter is seated properly.
- f. Screw/secure rear panel of NET*jet* ISDN adapter.
- g. Refit case and screws.
- h. Plug one end of the cable that came with your NET*jet* PCI ISDN adapter into the jack on the adapter and plug the other end into Telstra's NT1 RJ45 socket.

### 3. Install the NETjet ISDN driver for Windows 98

a. After you plug the NETjet ISDN adapter into your PC, turn on the machine.

b. Since the NETjet ISDN adapter is Plug and Play, Windows 98 will automatically find the hardware and prompt you for a new driver. You should see the following dialog message window.



c. Select "Next"

When the following window appears select "Search" then "Next"



d. Enter "CD-ROM drive" then select "Next"



e. Windows will then pop up the following dialog window.



Note that later versions of the software driver will report the card as a **Netjet DOV 128K ISDN-S NDIS WAN Adapter** where DOV means Data-Over-Voice. This new version will do DOV or standard ISDN data calls. To make a DOV call rather than a standard call, see the later section titled **Notes for DOV (Data-Over-Voice)**.

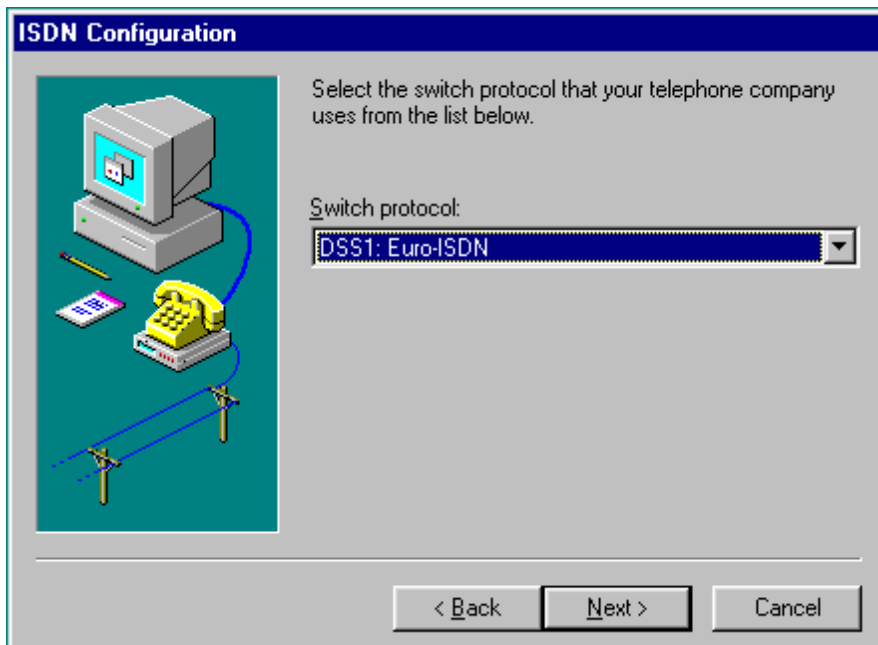
f. Select "Next", you should then see the following.



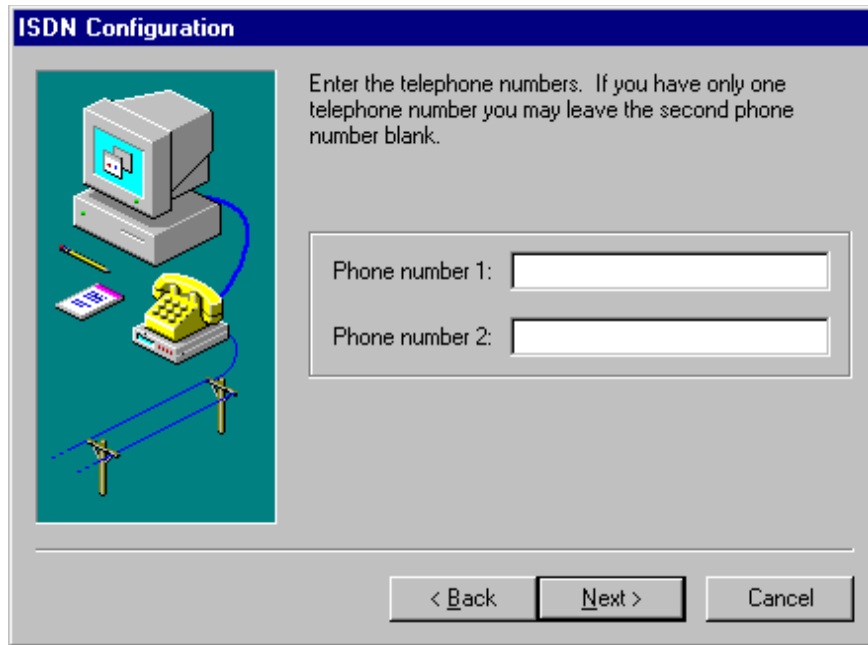
g. Now select "Finish".



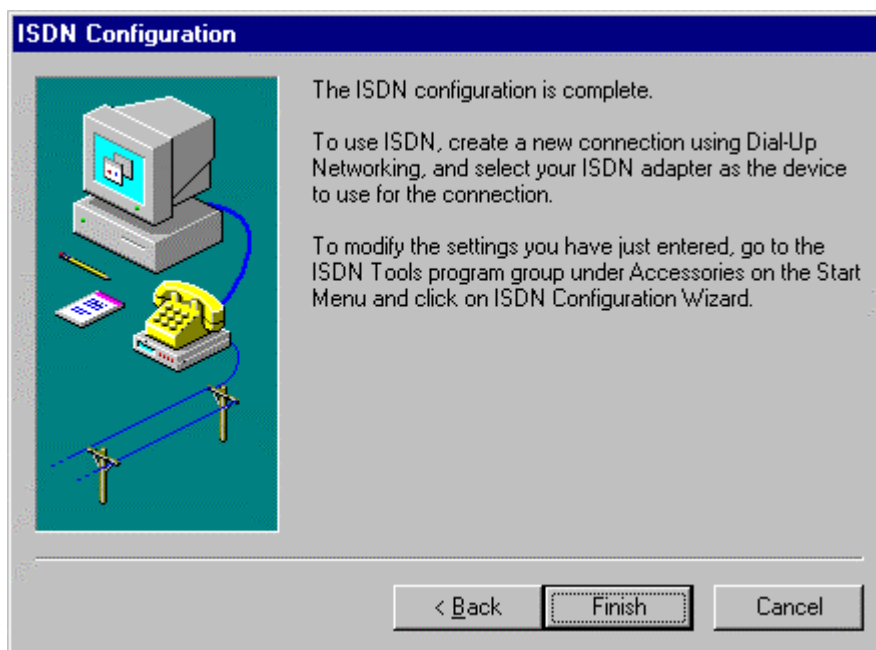
h. Now that the driver is installed it needs to be configured, select "Next".



i. Select "DSS1: Euro-ISDN" from the switch protocol list. (Note: this selection is compatible for both Microlink and OnRamp2 ISDN services from Telstra) Select "Next" and Windows will pop up the next window.



j. Type in the Phone numbers provided by Telstra when they installed your ISDN line. Select "Next" for the next pop-up window. Note: If you do not have the Phone numbers now, it is possible to enter them later by selecting from the Windows 98 desktop - Start, Programs, Accessories, Communications then ISDN Configuration Wizard.



k. Select "Finish". Wait until all of the driver files have been copied on to your hard disk. Now the driver has been successfully installed and you are ready to use the NETjet ISDN modem.

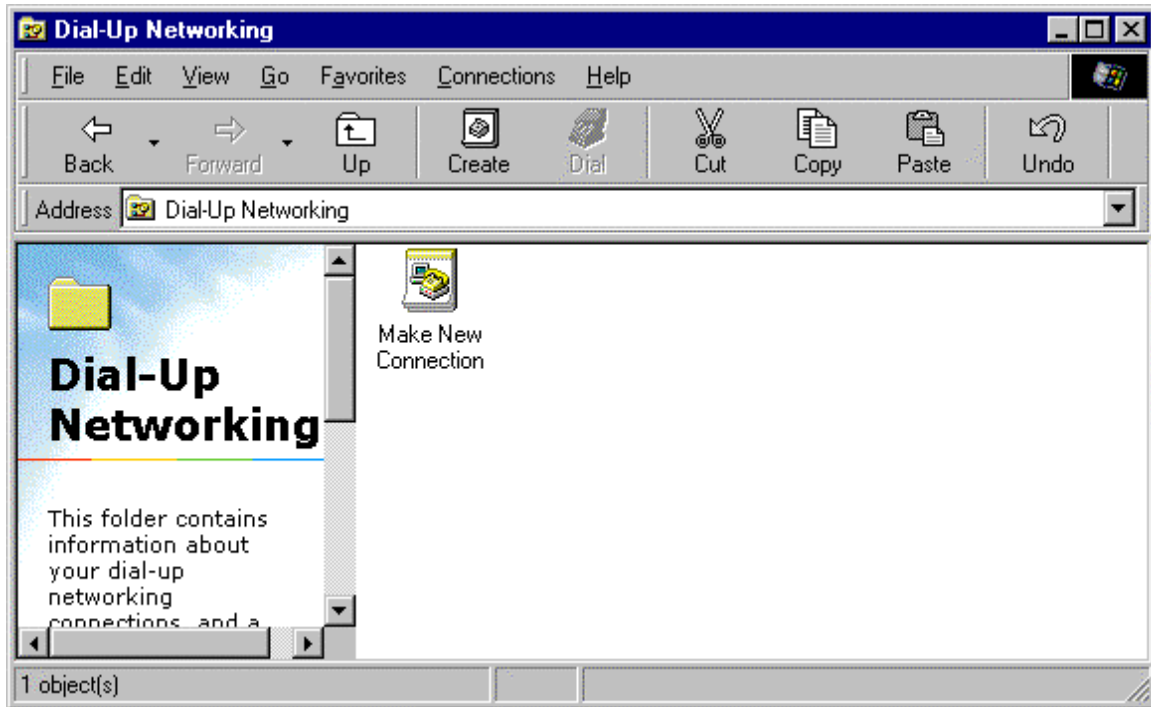
## II) Setting Up Internet Access

### 1. Install your Internet access program

The NETjet ISDN adapter will work with any Internet access program such as Internet Explorer, Netscape, etc.

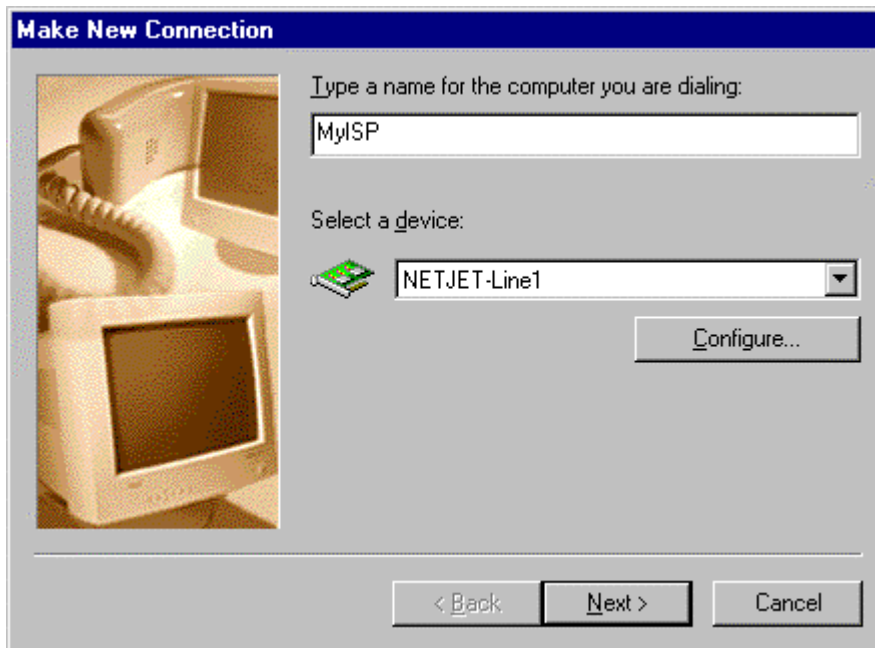
### 2. Set up Dial-Up Networking

a. Go into "My Computer", select "Dial-Up Networking".



b. Double click on "Make New Connection" to assign a name, modem type (NETJET-Line1), and phone number.

c. Enter the name of your ISP and select a device. Then select "Next".



**Make New Connection**

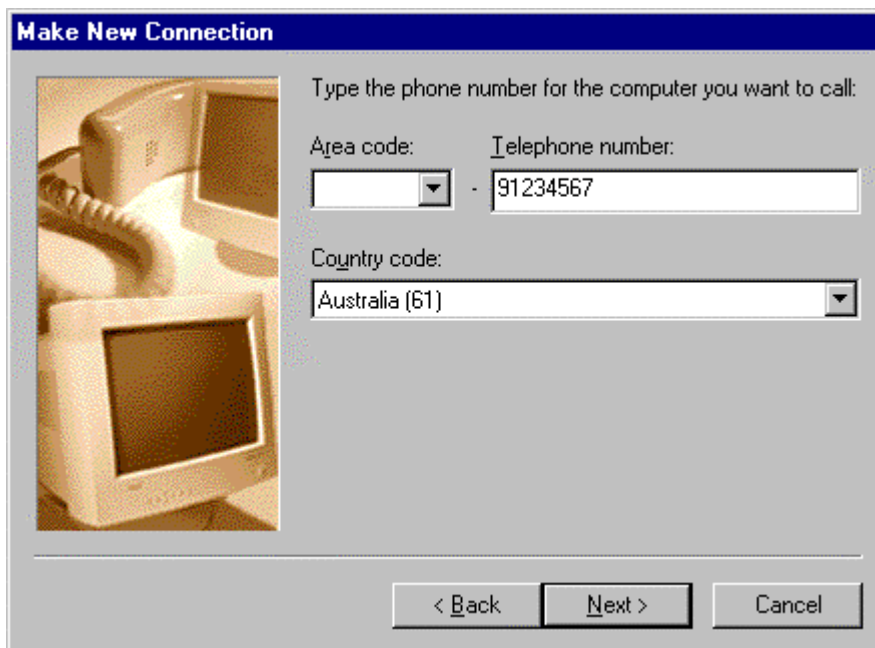
Type a name for the computer you are dialing:  
MyISP

Select a device:  
NETJET-Line1

Configure...

< Back   Next >   Cancel

d. Enter the phone number of your ISP and select "Next".



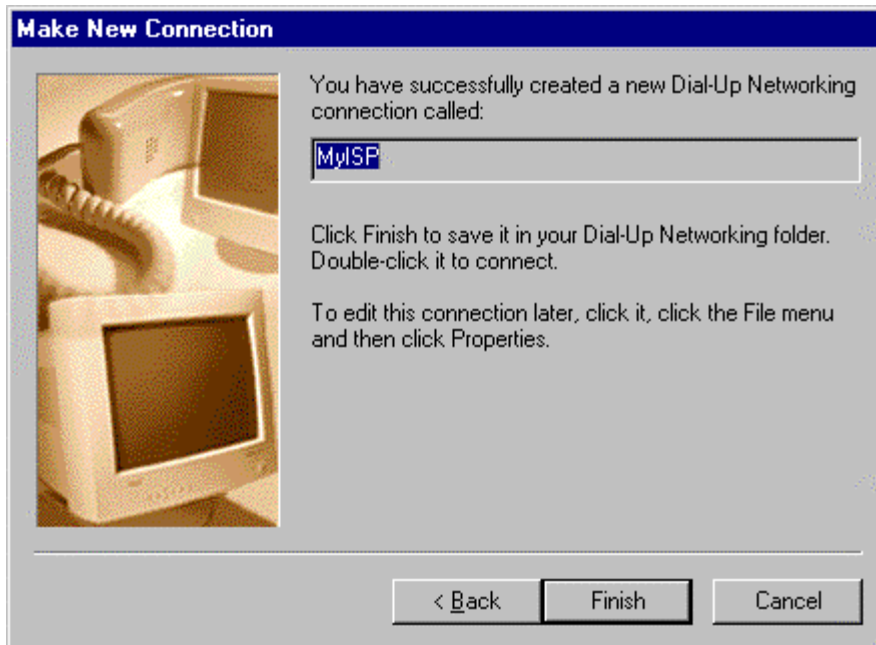
**Make New Connection**

Type the phone number for the computer you want to call:

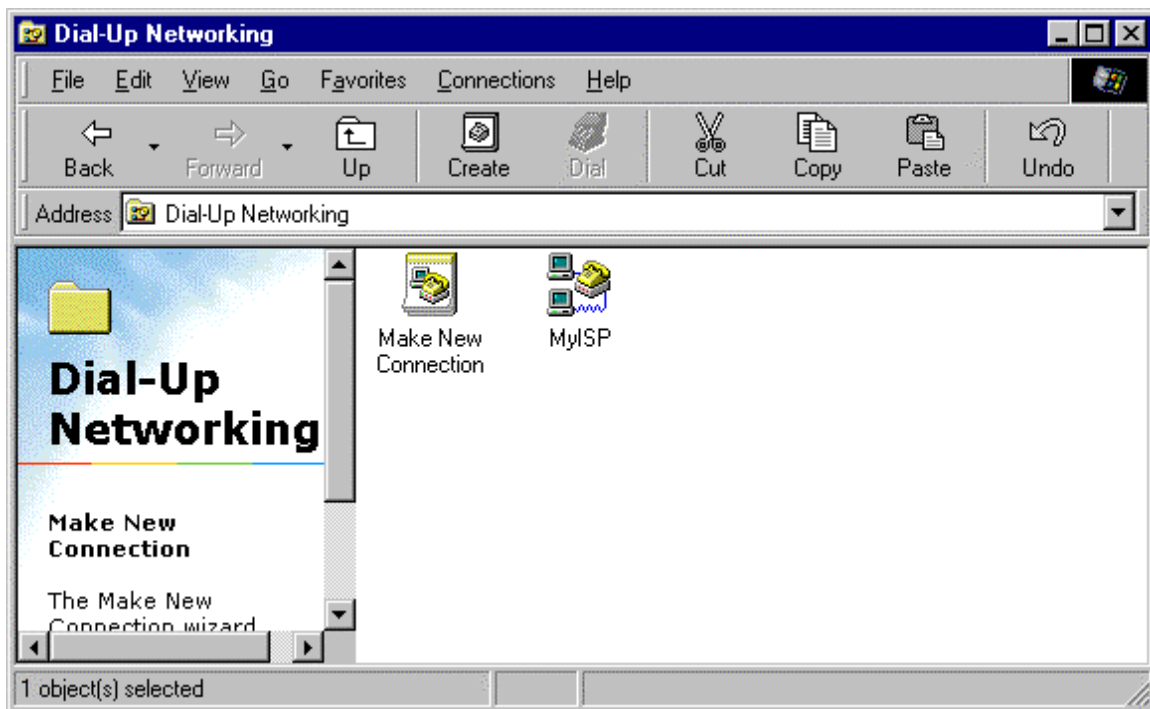
Area code:   Telephone number:  
- 91234567

Country code:  
Australia (61)

< Back   Next >   Cancel



f. Select “Finish” and you will see the new icon in the Dial up Networking folder.



### 3. Connect to the Internet

In the Dial Up Networking folder, click on the icon you just created in step 1. Type-in the user name and password you obtained from your Internet Service Provider, click on “Save Password”, then click “Connect”. After the connection has been established, you can launch your Internet application (eg Netscape etc) and you’re up running.

## Notes for DOV (Data-Over-Voice)

If you wish to make DOV calls, rather than standard ISDN data calls, you need to do 4 things:

1. Install the DOV version of the driver. If your driver does not identify itself as DOV, the latest version can be downloaded from the Support page of the Traverse web site. To check your driver version, go to **My Computer / Control Panel / System** and click on the **Device Manager** tab. Double click on **Network Adapters**. If the DOV version of the software has already been loaded, there will be an adapter titled: **NETjet DOV 128K ISDN-S NDIS WAN Adapter**. Older versions identify as **NETjet 128K ISDN-S NDIS WAN Miniport Adapter**.
2. Place a "V" (upper or lower case) at the beginning of the telephone number you wish to call - this will indicate a DOV call rather than a standard ISDN data call. Note that if you forget to enter a "V" in the telephone number, your call will be charged at normal ISDN DATA call rates!

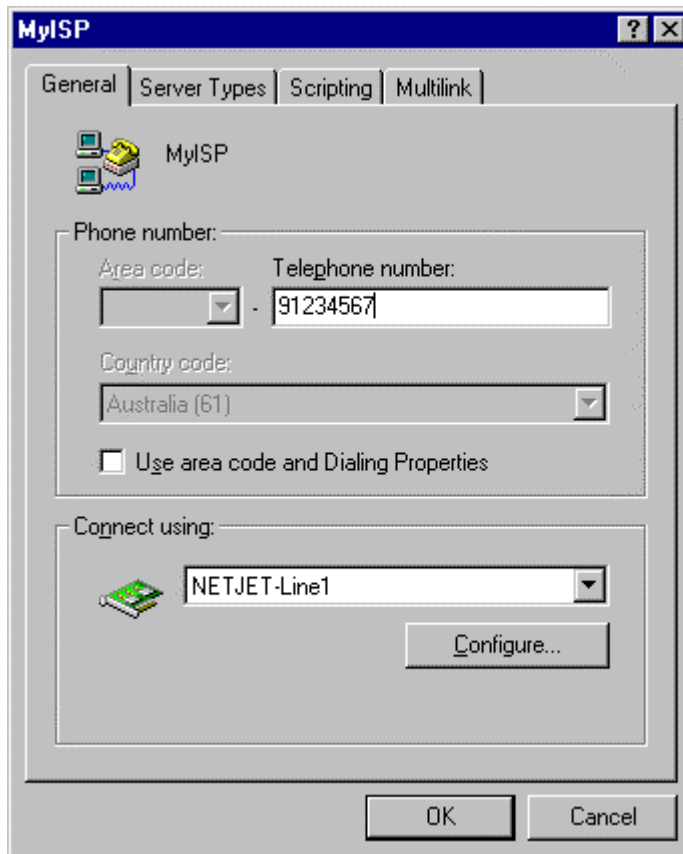
To avoid doing this each time you wish to place the call, go to **My Computer / Dial-Up Networking** and right click on your ISDN DOV icon and then select **Properties**. If you do not tick the **Use area code and dialling properties** box, then the "V" should stay in the telephone number.

If, however, you do wish to tick this box, the "V" character will disappear each time you double-click the icon to start a call. To circumvent this problem, double-click the icon as if to make a call, and then click on the Dial **Properties** button. Check the box **To disable call waiting dial** and enter a "V" in the box to the right. Click on the **APPLY** and **OK** buttons and the "V" should then always appear in your telephone number.

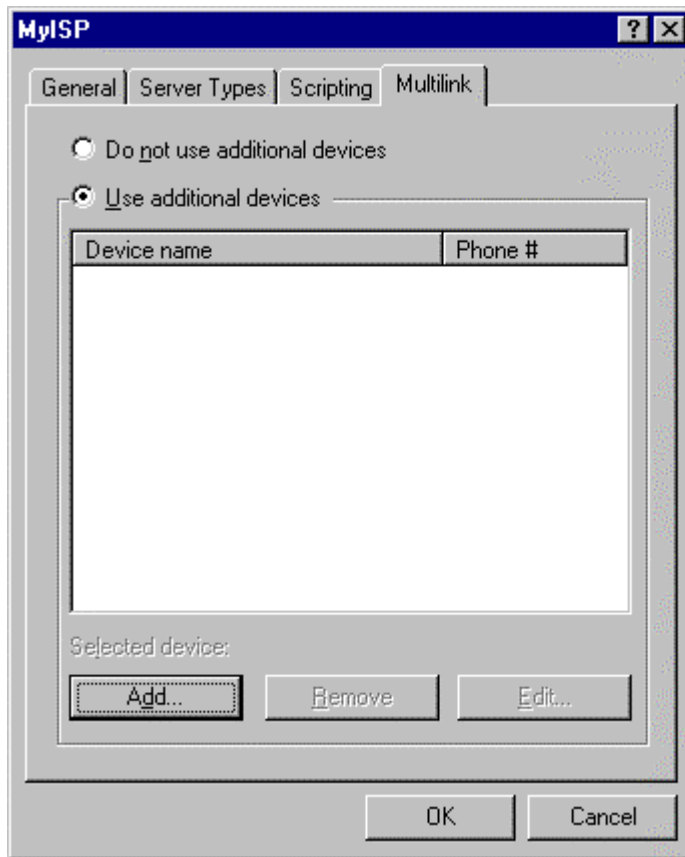
3. Select 56K/112K or 64/128K (depending on the capability of the target system) - go to **My Computer / Dial-Up Networking** and right click on your ISDN DOV icon and then select **Properties**, then click on **Configure** and select either **56K data** or **64K data**, and check the tick-box for **Only connect at this speed**.
4. If you wish to make a 128K DOV call, then you also need to place a V at the start of the telephone number for the second channel (see the section titled **Set up ML-PPP (128K bps)**).

### III) Set up ML-PPP (128K bps)

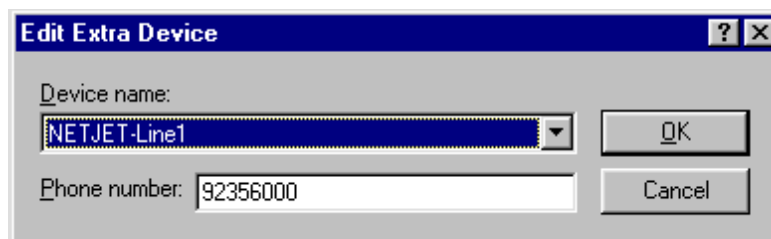
1. Go into "My Computer", then "Dial-Up Networking" and click on the icon for your ISDN connection. Click on "File", then click on "Properties".



2. Select the "Multilink" tab then select "Use additional devices". Then select "Add".



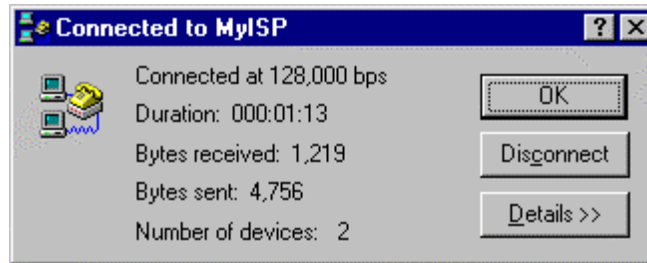
3. The "Edit Extra Device" screen should appear:



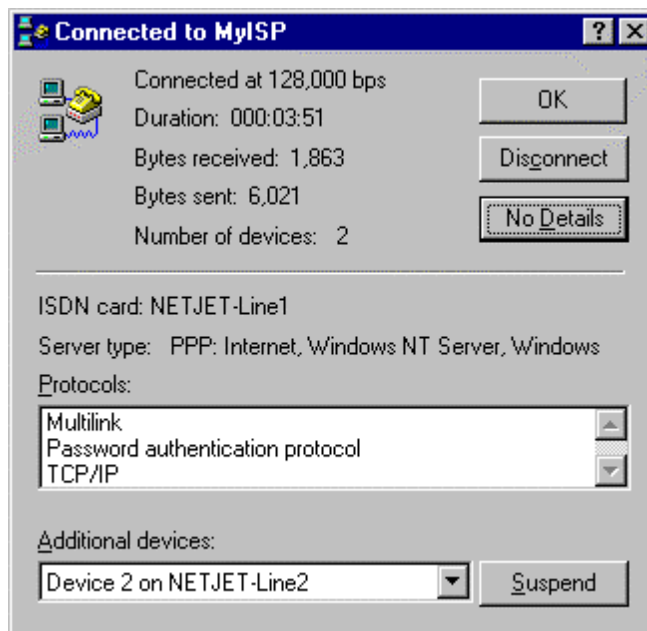
Select "NETJET-Line2" and enter the phone number of your ISP (beginning with a V if you wish to do DOV). Then click on "OK".  
You have now configured your connection for 128K.

#### IV) Switching between 128k and 64k dynamically

1. You can dynamically disable and enable the second B channel connection after the connection is made. Double click on the Dial Up Networking icon in the bottom right hand corner of your screen. Then select "Details".



2. Select "Suspend" to disable the Second B channel (2B) and select "Resume" to enable the 2B connection.



3. Note that dynamic selection is only supported when the initial call is 128k.

## V) Changing your ISDN Phone number

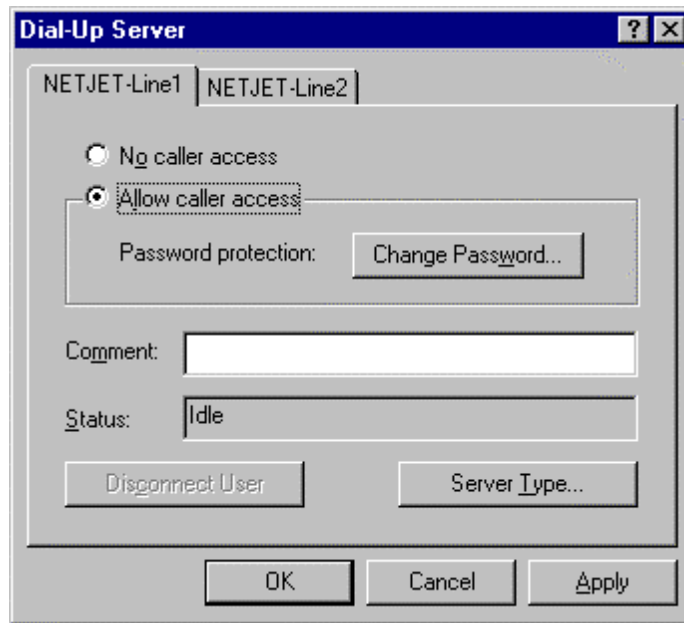
After the installation, if you want to reconfigure your ISDN line, click “Start”, then “Program”, then “Accessories”, then “Communications”, then “ISDN Configuration Wizard.” Follow the instructions to reconfigure your ISDN line.

## VI) Configure your PC to be a Dial-Up Server

1. In “Dial-Up Networking”, click “Connections”, and then click “Dial-Up Server”.

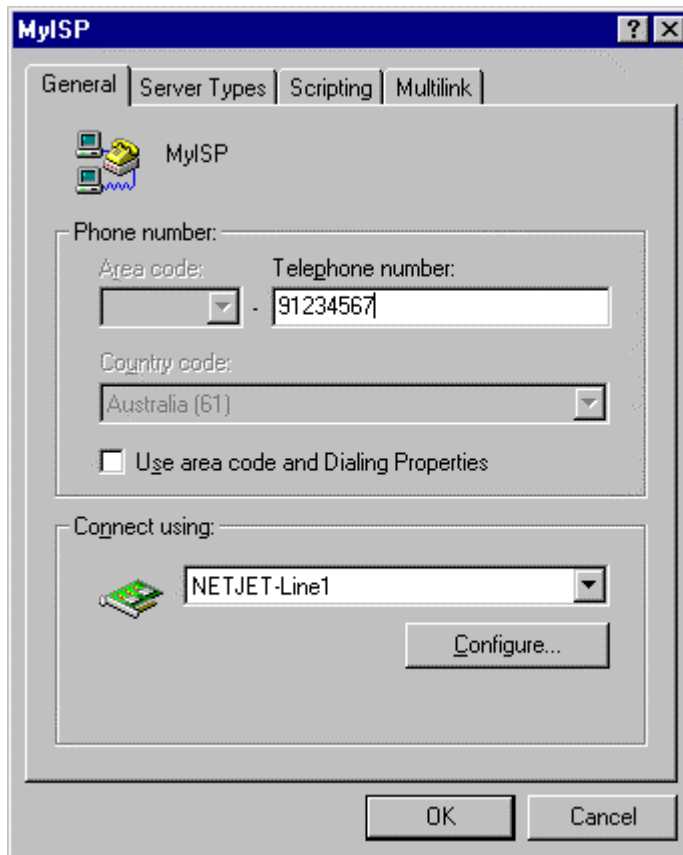


2. Select "NETJET-Line1" and click "Allow caller access". Your ISDN line 1 is ready for incoming calls. Microsoft ISDN only supports a single channel (64K) server connection. Do not enable both channels for the incoming call.

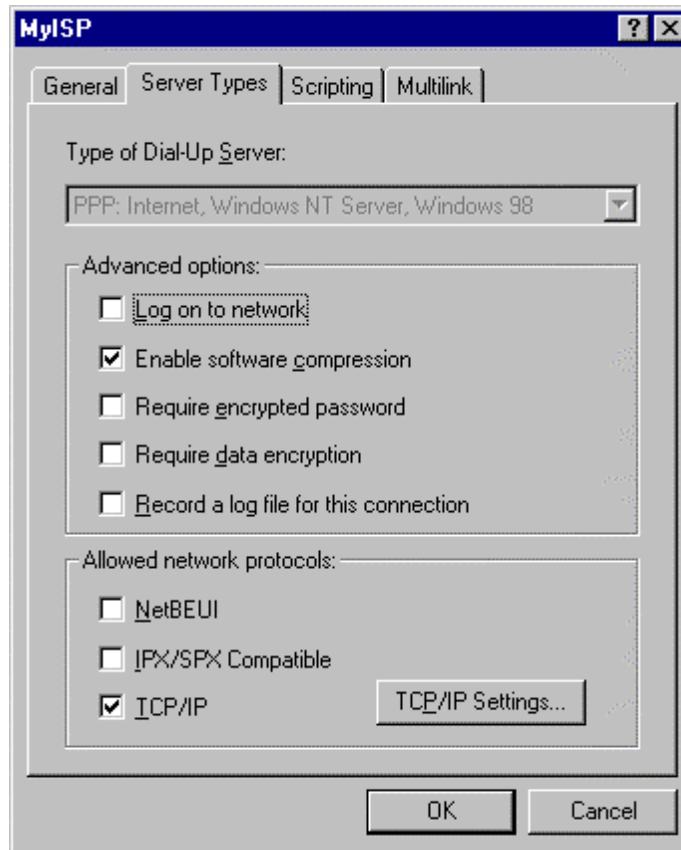


## VII) configure the Dial-Up Networking TCP/IP protocol

In "Dial-Up Networking", select the icon which uses NETjet ISDN for the connection. Then select "File" and "Properties".

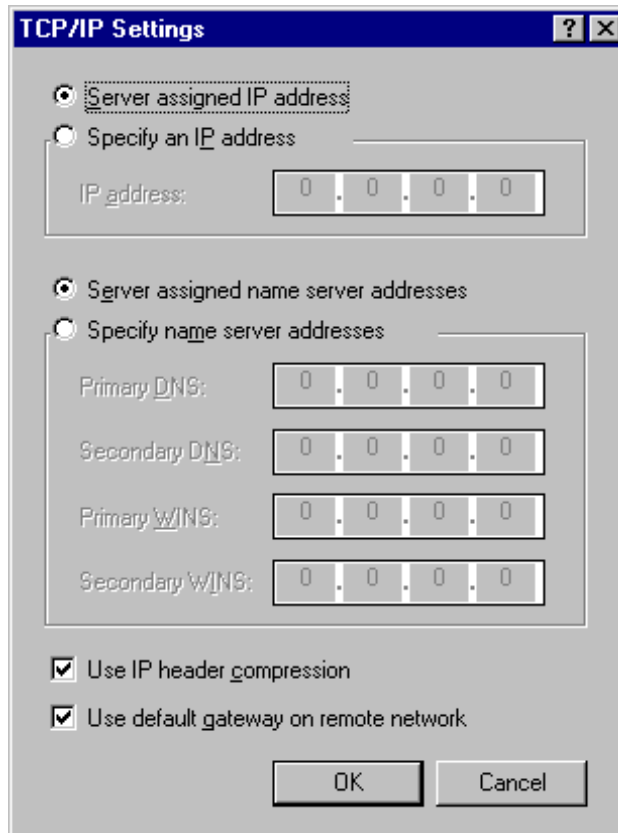


1. Select "Server Types" and Windows will show the following dialog message window.



**Hint : Do not select “Log on to network” unless this is required by your ISP. This can reduce the login time considerably.**

2. For most Internet server connections, TCP/IP is the only protocol needed for making the connection. In “Allowed Network Protocols”, de-select “NetBEUI” and “IPX/SPX”. Select only TCP/IP then select “TCP/IP settings”.

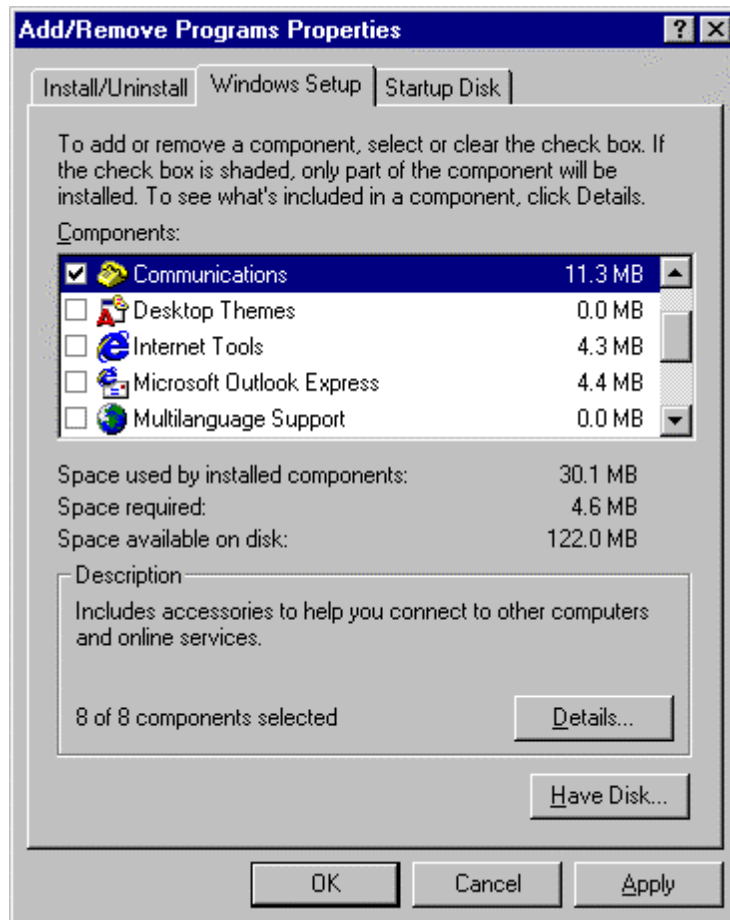


Note : If you remove the tick on “Use IP header compression” then your login will be slightly faster but the overall throughput may drop slightly.

3. Click “OK” and you are ready to use this Dial-up connection icon to make the call.

### **VIII) Installing MS Dial-Up Networking**

1. Open "My Computer", select "Control Panel", then "Add/Remove Programs".
2. Select the "Windows Setup" tab in the "Add/Remove Program Properties" menu.
3. Highlight and double click on "Communications", then make a check on the "Dial-Up Networking" box. Then click "OK"

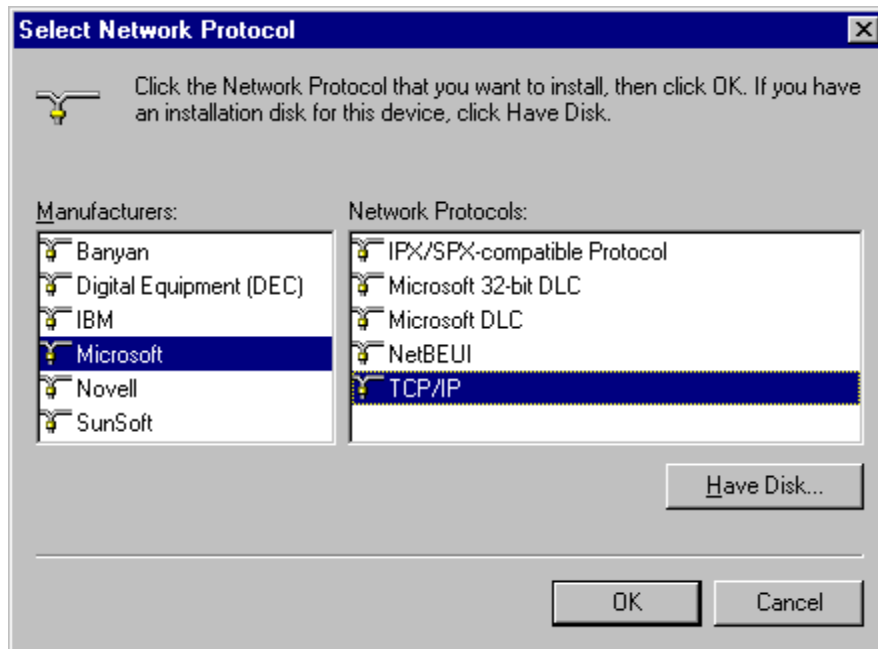


4. Next install TCP/IP protocol as shown in section IX.

## ***IX) Installing TCP/IP Protocol***

### **1. To Add the Microsoft TCP/IP network protocol**

In the Control Panel, double-click "Network". In the "Configuration" tab, click "Add", select "Protocol", then click "Add" again, select "Microsoft", and then select "TCP/IP". Finally click "OK".



### **2. Restart**

When prompted to Restart the Computer click YES.

## ***X) Set up Remote PC Access***

If you wish to dial into another computer eg. for telecommuting purposes, then follow this procedure:

### **1. Set up "Dial-Up Networking"**

Go into "My Computer", then "Dial-Up Networking" and click on "Make New Connection" to assign a name, modem type (NETJET-Line1), and phone number. You are ready to dial out.

### **2. Connect to Remote PC**

In "Dial Up Networking", click on the icon you just created in step 1. Type in your user name and password for the Remote PC, then click "Connect". After the connection has been established, use "Find Computer" to access the Remote PC.

## CHAPTER 4: Troubleshooting

### IMPORTANT

You should note that your NETjet ISDN card and the cable that you have been supplied have both been factory tested. Telstra will also test your ISDN when it is installed. Almost all user problems are due to misconfiguration of Windows 98. Below is a list of common problems that users may incur.

If you are unable to identify your problem below, then you can test your Hardware and ISDN line using the Diagnostic software provided on the Distribution CD. See the file d:\diagnostic\readme for more details.

#### 1. NETjet card not recognised correctly on bootup

Windows 98 recognises a new NETjet card every time that W98 is booted. This can occur with early model NETjet cards sold for W95. You will need to return the card to Traverse Technologies for an upgrade.

#### 2. No ISDN connection

*Error Message : “! There is no dial tone.”*

This error message may indicate that your NETjet ISDN card is not connected properly to the NT-1. Check the ISDN cable connections and try again.

#### 3. Incorrect Switch Protocol or Incorrect Number

*Error Message : “! You have been disconnected from the computer you dialled.”*

This error message may indicate that you are trying to dial an incorrect number or the wrong ISDN Switch Protocol may be selected.

To check the number you are dialling :

- a. Open “My Computer” and select the Dial-Up Networking folder.
- b. Right click the Dial-Up icon you are using then click Properties.
- c. Check that the number in the Phone Number field is correct.
- d. If the “User country code” box is ticked make sure the country and area code are correct (hint : you do not need to tick this box if the number you are calling is local).

To check your ISDN Switch Protocol Setting :

- a. Click the Start button, then click Programs, Accessories, Communications.
- b. Then the click ISDN Configuration Wizard.
- c. The ISDN Configuration window should appear. Click Next.
- d. Check that the Switch Protocol is as follows :  
“DSS1:Euro-ISDN”
- e. Then click Next, Next and then click Finish.
- f. Start your computer for any changes to take effect.

#### **4. Dial-Up Networking not Installed**

*Error Message : “! The Microsoft Dial-Up adapter is not installed or not responding properly.”*

This message may indicate that Dial-Up Networking is not installed correctly. Another symptom of this problem can cause Dial-Up Networking to disappear from the “My Computer” folder.

To solve this problem de-install Dial-Up Networking and the ISDN Accelerator as follows:

- a. Open “My Computer”, select Control Panel, and then click Add/Remove Programs
- b. Select the Windows Setup tab.
- c. De-select “Communications” then click OK
- d. Re-install Dial-Up Networking as shown in section VIII
- e. Re-start the Computer.

#### **5. Driver not installed correctly**

To check that your driver is installed correctly :

- a. Open “My Computer”, select Control Panel, and then click the System icon.
- b. Select the “Device Manager” tab.
- c. Under “Network Adapters” you should see :  
    “NETjet 128K ISDN-S NDIS WAN Miniport Adapter”
- d. If a yellow “!” sign appears in front of it, the driver is not installed properly. Re-install the driver as follows :
- e. Select “NETjet 128K ISDN-S NDIS WAN Miniport Adapter”, then click Remove and OK.
- f. In the C:\WINDOWS\INF directory delete the “NETJET.INF” file.
- g. In the C:\WINDOWS\SYSTEM directory delete the “NETJET.SYS” file.
- h. Re-start the computer and install the driver as shown in section I of this chapter.

## 6. Missing “New Hardware Found” prompt

If the “New Hardware Found” prompt does not appear after a reboot, the driver installation may have been accidentally skipped :

- a. Open “My Computer”, select Control Panel, and then click the System icon.
- b. Select the “Device Manager” tab.
- c. Under “Other Devices” you may see :  
    “? PCI Network Controller”
- d. Select “? PCI Network Controller”, then click Remove and OK.
- e. In the C:\WINDOWS\INF directory delete the “NETJET.INF” file.
- f. In the C:\WINDOWS\SYSTEM directory delete the “NETJET.SYS” file.
- g. Re-start the computer and install the driver as shown in section I of this chapter.

## 7. Missing TCP/IP protocol

*Error Message “ ! Dial-Up Networking could not complete the connection to the server.”*

## 8. Error 629

This message may indicate that the TCP/IP protocol is not installed. To install this protocol see section IX of this chapter.

This message may indicate that you have the wrong ISDN Switch protocol or your ISDN line is incorrectly configured. To check your ISDN Switch protocol see Item 2 above. If your Switch protocol is set correctly your ISDN line may be incorrectly configured. To check this you need to run the Diagnostic software provided on the Distribution CD. See the file d:\diagnostic\readme for more details.

## 9. Diagnostics

Included on the NETjet Distribution CD is DOS based utility that enables you to test your NETjet PCI ISDN card and your ISDN line independently of Windows 98 and your ISP. If you are unable to configure your system and get your NETjet Card up and running, the next step is to use this utility. To do this see the README file in the \DIAGNOSTIC subdirectory on the NETjet Distribution CD.

## **APPENDIX A**

### ***A.1 Technical Support***

If you encounter problems with your NETjet ISDN card, and you cannot locate the problem, firstly contact the dealer where you purchased your card. If your dealer is unable to help you then contact:

Traverse Technologies Australia Pty Ltd.  
Technical Support  
652 Smith St  
Clifton Hill  
Vic 3068  
Internet: <http://www.traverse.com.au>  
[support@traverse.com.au](mailto:support@traverse.com.au)

### ***A.2 Returning a Product***

If Technical Support determines that you need to return the product for warranty repair service, you will be issued a Return Authorisation (RA) number.

Return Authorisation Guidelines:

1. No product will be accepted for return for warranty service unless accompanied by a valid RA number. No RA number will be issued without a valid serial number. Write the RA number clearly on the outside of the package as follows: "RA#Annnn".
2. Keep a record of the RA number and the name of the service representative who issued you the RA number for future reference.
3. Return a copy of the original sales invoice for proof of purchase and verification of warranty.
4. If it is determined that your warranty has expired or that the problem is not covered by the warranty, a method of payment will have to be authorised before an RA number is issued.
5. Write your name, return address and RA number on a small strip of paper and tape it to the NETjet card before packing it
6. Write a note describing the problem giving as much detail as possible.
7. Place the board in an antistatic bag, then in padded shipping bag. Use protective material, such as bubble wrap or foam to further protect the board.
8. The RA number that is issued to you is valid for only thirty days after the date of issue.
9. We will not accept packages that are not prepaid for shipping charges, or accept COD payments for such shipping costs. Traverse will pay for return shipment to the customer after a repair has been effected.
10. The shipping address:  
Traverse Technologies Australia Pty Ltd  
Technical Support  
652 Smith St  
Clifton Hill

Vic 3068, Australia

If you drop off a product at the above address, it will be processed and returned as a normal RA. Do not expect to be given a replacement right away, while you wait.

### **A.3 Warranty Terms you should know**

Warranty Repair: Traverse Technologies Australia Pty Ltd will repair or replace (at our option) free of charge, within the warranty period. We require you to furnish a receipt, or similar bill of sale to determine the date of purchase. If you do not supply an adequate proof of purchase with the product, you will be charged an out-of-warranty repair fee, determined by the value of labor plus materials.

Shipping: For products under warranty, you must pay one way shipping and we will cover the shipping charges when we return the product to you. We cover the return charges within Australia. We do not provide express, or next day shipment of products. You will be required to pay for any next day shipping, or special handling you require. We will ship back to you by the most economical way, eg. Express Post. Replacement goods will not be shipped until the returned unit is received.

### **A.4 Limited Warranty**

Our company warrants this product against defects in materials and workmanship for a period of one (1) year from the date of purchase. During the warranty period, products determined by us to be defective in form or function will be repaired, or at our option, replaced at no charge. This warranty does not apply if the product has been damaged by accident, abuse, misuse, missing serial number, or force majeure (such as a lightning strike), or as a result of service or modification other than by Traverse Technologies Australia Pty. Ltd.

This warranty applies only to the original purchaser of the NETjet card, and is non-transferable. The warranty does not cover any parts not installed by Traverse Technologies Australia Pty. Ltd. This warranty is limited to parts and labor only and does not include any incidental that may occur during the course of service including (but not limited to) shipping, delivery, etc. Any incidental charges that may occur are the responsibility of the user.

Traverse Technologies Australia Pty. Ltd. is not responsible for any lost profits, lost savings or other incidental or consequential damages arising out of the use of, or inability to use, this product. This includes damage to property and, to the extent permitted by law, damages for personal injury. This warranty is in lieu of all other warranties including implied warranties of merchant ability and fitness for a particular purpose.

This warranty applies only to this product, and is governed by the laws of Australia.

### **A.5 Copyright**

Copyright © 1997

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written consent of Traverse Technologies Australia Pty. Ltd.

While reasonable efforts have been taken in the preparation of this manual to assure its accuracy, the manufacturer and distributors assume no liability resulting from any errors or omissions in this manual, or from the use of the information contained herein. The information contained herein is subject to change without notice. Revisions may be issued to advise of such changes and/or additions.